

Notice of Allowability	Application No.	Applicant(s)	
	10/658,056	BASTOS ET AL.	
	Examiner	Art Unit	
	ANTHONY J. BLACKMAN	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/8/03.
2. ☒ The allowed claim(s) is/are 1-27.
3. ☒ The drawings filed on 9/8/05 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>5/20/05</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
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DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C.

121:

- I. Claims 1-27, drawn to a graphics processing system that generates a color value for a pixel from geometry data via selection shading locations and depth locations, wherein the depth locations are greater than the shading locations, storing sampled points (of one shading and one depth) and computing an antialiased color value of the sampled points, classified in class 345, subclass 613.
- II. Claims 28-47, drawn to a multisampling rasterizer configured to receive shading and depth locations utilizing control logic and a downfiltering unit to generate a color value for the pixel, classified in class 345, subclass 426.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions Group I and Group II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Group I is directed to antialiasing a

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determined color value for a pixel including selection and storage of both shading and depth location means of a given pixel via a graphics processing subsystem. The subcombination has separate utility such as disclosing a multisampling rasterizer means configured to receive shading and depth location means with the multisampling rasterizer utilizing control logic and a downfiltering unit generating a color value for the pixel. Both Group I and Group II perform different functions in generating a color value for a pixel that have separate utility.

3. During a telephone conversation with Cathy E. CRETSINGER, Reg. No. 51,588 on or about 1/5/05 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-27. Affirmation of this election must be made by applicant in replying to this Office action. Claims 28-47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Cathy E. CRETSINGER, Reg. No. 51,588 on 6/21/05.

The application has been amended as follows: cancel claims 28-47, representing Group II above and withdrawing the traverse of Group II on or about 1/5/05.

Allowable Subject Matter

5. The following is an examiner's statement of reasons for allowance for claim 1 after a discussion of the prior art, including;

FORAN et al, US Patent No. 5,684,939 computing an antialiased color value for the pixel using the hybrid sampled data points and storing the hybrid sampled points (the hybrid sampled points-comprising shading location values and depth location values see col 6, lines 9-23), however, does not expressly teach or suggest the following combination of a selected first plurality of shading locations and a plurality of depth locations, wherein, the depth locations are greater than the shading locations and under the control of a graphics processing subsystem generating a plurality of hybrid sampled data equal in number to the depth locations and then computing a value of the each shading location and a value of the each depth location. Even though FORAN et al ('939) disclose computing an antialiased color value for the pixel using the hybrid sampled data points and storing the hybrid sampled points (the hybrid sampled points-comprising shading location values and depth location values see col 6, lines 9-23), FORAN et al does not disclose the graphics processing subsystem means determining the pixel shading location means in association with pixel depth locations means as claimed;

SNYDER et al, US Patent No. 5,870,097 discloses an antialiasing engine associated with shadow depth map means and sampling means (see col 92, line

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56-col 93 line 4), however, does not disclose or suggest the hybrid sampling means as claimed (depth value with an associated shading value).

6. FORAN et al, US Patent No. 5,742,749 and SCHEIBL, US Patent No. 5,377,313 both disclose pixel shadow/shading values associated with pixel depth/z values, however, do not disclose antialiasing means associated with both disclose pixel shadow/shading values associated with pixel depth/z values, nor, more particularly, sample points of shadow/shading values associated with pixel depth/z values. Furthermore, the Information Disclosure Statement (IDS), disclose art closely related to the invention, but also fails to disclose the similar features not disclosed above in the prior art. Therefore, because none of the prior art expressly teaches or suggests the following combination of a selected first plurality of shading locations and a plurality of depth locations, wherein, the depth locations are greater than the shading locations and under the control of a graphics processing subsystem generating a plurality of hybrid sampled data equal in number to the depth locations and then computing a value of the each shading location and a value of the each depth location, claims 1-27 meet necessary conditions for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. FORAN et al, US Patent No. 5,742,749 (col 9, line 60-0col 10, line 15) and SCHEIBL, US Patent No. 5,377,313 (fig 3) both disclose determination of pixel shadow locations and pixel depth locations, however, do not disclose use of antialiasing to determine pixel color values.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. BLACKMAN whose telephone number is 571-272-7778. The examiner can normally be reached on FLEX SCHEDULE.

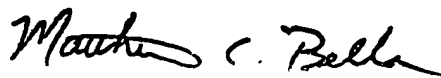
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MATTHEW BELLA can be reached on 571-272-7779 . The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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ANTHONY J BLACKMAN
Examiner
Art Unit 2676



MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
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